WHAT IS CLAIMED IS

1. A power converter for delivering power to a load, comprising:

a single stage buck-boost converter for converting a rectified input signal;

a switching output stage for converting the DC signal to a switched signal delivered to the load; and

a controller coupled to the buck-boost converter and the output stage for controlling the buck-boost converter and the output stage.

2. The power converter according to claim 1, wherein the buck-boost converter includes a switch driven by the controller.

3. The power converter according to claim 2, further comprising drive signals provided from the controller to the switch, the drive signals being operable to switch the switch to draw an input current substantially in phase with an input voltage.

4. The power converter according to claim 2, further comprising:

an inductor coupled to the switch for storing current supplied by the switch; and

a drive signal provided from the controller to the switch to switch the switch to a conducting state when current through the inductor is substantially zero.

5. The power converter according to claim 2, further comprising:

an inductor coupled to the switch for storing current supplied by the switch; and

a drive signal provided by the controller to the switch to switch the switch to a conducting state for a selected period of time, whereby current stored in the inductor varies depending upon the selected period of time the switch is in the conducting state.

6. The power converter according to claim 4, further comprising a diode coupled to the switch and the inductor for directing current from the switch to the inductor.

7. The power converter according to claim 5, further comprising a diode coupled to the switch and the inductor for directing current from the switch to the inductor.

8. The power converter according to claim 1, further comprising a switching full bridge in the output stage for supplying power to the load, the switches in the switching full bridge being controllable by the controller.

9. The power converter according to claim 6, further comprising a capacitor coupled to the diode and the inductor for storing energy supplied by the inductor when the diode is conducting.

10. The power converter according to claim 7, further comprising a capacitor coupled to the diode and the inductor for storing energy supplied by the inductor when the diode is conducting.

11. The power converter according to claim 3, further comprising a feedback signal from the buck-boost converter to the controller for contributing to determining when the switched is switched.

12. The power converter according to claim 4, further comprising a feedback signal from the inductor to the controller for determining when the inductor current is substantially zero.

13. The power converter according to claim 1, further comprising a feedback signal from the output stage to the controller for providing to the controller an indication of current flowing through the output stage.

14. An electronic ballast for driving an HID lamp, comprising the power converter of claim 1.

15. A buck-boost converter for supplying regulated power from a rectified AC input, comprising:

a switch coupled to the rectified AC input for switching the rectified AC input;

an inductor coupled to the switch for storing current supplied through the switch when the switch is in a conducting state;

a diode coupled to the switch and the inductor for directing current from the switch to the inductor when the diode is not conducting; and

a capacitor coupled to the diode and the inductor for storing energy supplied by the inductor when the diode is conducting, the capacitor supplying an output of the buck-boost converter.

16. The buck-boost converter according to claim 15, further comprising:

a controller for controlling the buck-boost converter; and

an output signal of the controller coupled to the switch for switching the switch.

17. The buck-boost converter according to claim 16, wherein the controller is operable to provide a switching signal to the switch to draw an input current in phase with an input voltage.

18. A buck-boost converter according to claim 16, further comprising a feedback signal from the inductor to the controller to provide an indication of the voltage or current of the inductor.

19. The power converter according to claim 1, wherein the controller comprises an integrated circuit.

20. An integrated circuit for controlling a power converter, comprising:

a power factor correction circuit for driving a switch in a buck-boost converter based on buck-boost converter parametric signals supplied to the integrated circuit;

a driver circuit for driving a switching full bridge circuit to control power delivered to a load connected to the switching full bridge circuit.

21. The integrated circuit according to claim 20, further comprising a current sense circuit having an input coupled to the switching full bridge circuit to obtain an indication of current flowing through the switching full bridge circuit.

22. The integrated circuit according to claim 20, further comprising an electronic ballast for driving an HID lamp.

23. A method for controlling the power converter according to claim 1, comprising:

operating the buck-boost converter to draw an input current in phase with an input voltage;

operating the buck-boost converter to obtain a regulated DC bus voltage supplied from the buck-boost converter to the output stage; and

operating the output stage to supply a constant power to the load.

24. A method for operating a power converter that includes a single stage input buck-boost converter and a switching output stage, comprising:

operating the single stage input buck-boost converter to draw a sinusoidal current in phase with an input voltage and to provide a regulated DC bus output;

operating the switching output stage to provide a constant power to a load.